

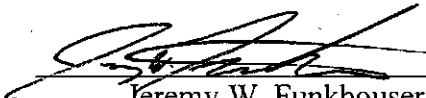
COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Valley Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

R. R. Donnelley & Sons Company
Harrisonburg, Virginia
Permit No. VRO81000

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, R. R. Donnelley & Sons Company has applied for a renewal of its Title V Operating Permit for its Harrisonburg book printing facility. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact:


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Date:

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FACILITY INFORMATION

Permittee

R. R. Donnelley & Sons Company
2347 Kratzer Road
Harrisonburg, Virginia 22802-8303

Facility

R. R. Donnelley & Sons Company
2347 Kratzer Road
Harrisonburg, Virginia 22802-8303

Plant ID No. 51-165-0114

SOURCE DESCRIPTION

NAICS Codes:

323117 (formerly SIC Code: 2732) – Book printing

R. R. Donnelley & Sons Company (RRD) produces hard- and soft-cover commercial trade books using offset lithographic printing. The facility operates 16 heatset web presses, one sheetfed (coldset) press, three ink-jet digital presses, and binding processes. Press operations use inks, fountain solutions, and blanket wash (cleaning solvents). In the binding area, printed materials are assembled, bound into book blocks, and then further processed into hard- and soft-cover books. Edge trimming and roughing and adhesive application are conducted at the binding lines. Volatile organic compound (VOC) emissions result primarily from evaporation of solvent in the inks, fountain solutions, and cleaning solvents. Particulate emissions are generated by the handling of paper trim and dust generated at the binding lines. Adhesive application at the binding lines is an additional source of VOC emissions.

The facility is a Title V major source of VOC and HAPs (glycol ethers, which are also VOCs). This source is located in an attainment area for all pollutants, and is a PSD minor source. The facility was previously permitted under a Minor NSR Permit issued on February 15, 2005 and amended August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010.

COMPLIANCE STATUS

The facility is inspected at least once every two years. The most recent full compliance inspection of the facility was conducted on May 26, 2010. RRD was found to be operating in compliance during the inspection. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements.

CHANGES SINCE INITIAL PERMIT

During its five-year term, RRD's Title V permit was modified one time to reflect changes at the facility, as detailed below.

Date	Permit action	Reason for action
March 15, 2006	Renewal Issuance	N/A
July 30, 2007	Significant modification	<ul style="list-style-type: none">- modifications to Press 764 (renamed Press 782)- addition of Press 791 (overall limit for heatset presses changed from 75.0 tpy to 69.5 tpy)- removal of Press 762, Press 763, and Press 786- installation of a regenerative thermal oxidizer (RTO) to control VOC emissions from Press 770 and Press 772

Please refer to the statement of basis documents for each of the listed modifications for further details. The renewed Title V permit reflects these modifications plus the following changes made more recently at the facility:

- * installation of three ink-jet digital printing presses with coating units (Presses 105, 106, and 107); and
- * installation of a second pneumatic trim scrap (PTS-2) system.

Pursuant to 40 CFR 63, Subpart ZZZZ, applicable requirements for the stationary reciprocating engines on the two emergency generators have been included in a new Facility Wide Conditions section. Also, the Inapplicable Requirements section of the permit has been expanded to include some federal regulations that have been promulgated since issuance of the last permit.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

Table I. Emission Units - R. R. Donnelley & Sons Company - Harrisonburg Division

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Sheetfed Offset Printing Equipment							
751	51A, B, and C	1989 Heidelberg 72FL sheetfed offset printing press	11,000 imp/hr	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
Web Offset Printing Equipment							
765	65	1995 Toshiba OA two-web offset printing press	861 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
766	66	1996 Toshiba OA two-web offset printing press	861 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
767	67	2000 Hantscho 16c two-web offset printing press	38,000 units/hr	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
768	68	2003 Hantscho 16c two-web offset printing press	38,000 units/hr	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
769	69	2003 Hantscho 16c two-web offset printing press	38,000 units/hr	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
770	70	1985 Toshiba OA two-web offset printing press	1,615 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
771	71	1985 Toshiba OA one-web offset printing press	1,615 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
772	72	1989 Toshiba OA two-web offset printing press	1,615 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
773	73	1994 Toshiba OA two-web offset printing press	1,615 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
782	82	1983 Harris M110 two-web offset printing press	861 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
783	83	2003 Harris M110B two-web offset printing press	36,000 units/hr	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
784	84	1993 Harris M110B two-web offset printing press	863 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
785	85	1992 Harris M110B two-web offset printing press	863 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
787	87	1983 Harris M110B two-web offset printing press	863 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
790	90	Timson T48A one-web offset printing press	31,400 impressions/hr	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
791	91	2007 Timson T48A one-web offset printing press	1,700 ft/min	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Ink-Jet Digital Printing Equipment							
105		Ink-Jet Digital Printing Press with coating unit – Model 6034988 (2010)	526,620 pages per hour	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
106		Ink-Jet Digital Printing Press with coating unit – Model 6034988 (2010)	526,620 pages per hour	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
107		Ink-Jet Digital Printing Press with coating unit – Model 6034988 (2010)	526,620 pages per hour	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
Paper and Dust Handling Systems							
PTS-1	C1, C2, C3, C4	Pneumatic trim scrap system (C1 – C3, 1980; C4, 2001)	15 tons/hr	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
PTS-2	C5	Pneumatic trim scrap system (C5, 2010)	15 tons/hr	none	-	-	2/15/05, as amended 8/11/05, 4/28/06; 2/23/07, 4/30/07, 6/21/07, & 11/10/10
WPD	BH1 BH2	Waste paper dust collection system (BH1, 1980; BH2, 2001)	15 tons/hr	Baghouse	BH	TSP, PM-10	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10
Adhesive Operations							
ADH	-	Binding line adhesive application (1980)	-	none	-	-	2/15/05, as amended 8/11/05, 4/28/06, 2/23/07, 4/30/07, 6/21/07, & 11/10/10

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description (PCD)	PCD ID	Pollutant Controlled	Applicable Permit Date
Emergency Generators							
EG-1		Waukesha 120 kW emergency generator with spark ignition engine	175 hp	none	-	-	RICE MACT
EG-2		Onan 80 kW emergency generator with spark ignition engine	144 hp	none	-	-	RICE MACT

*The Size/Rated capacity is provided for informational purposes only and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2009 annual emission update is attached as Attachment A. Emissions are summarized in the following tables.

Table 2. 2009 Actual Emissions

Emission Unit	Criteria Pollutant Emission in Tons/Year				
	VOC	CO	SO ₂	PM ₁₀	NO _x
Sheetfed press (751)	2.7	0	0	0	0
Heatset web presses (765-773, 782-785, 787, 790, and 791)	58.7	0	0	0	0
Ink-Jet digital presses (105-107)*	0	0	0	0	0
Paper and dust handling systems (PTS-1, PTS-2*, and WPD)	0	0	0	14.54	0
Adhesive operations (ADH)	3.1	0	0	0	0
Space heat boilers (insignificant emissions units)	0.06	0.92	0.007	0.08	1.1
Total	64.56	0.92	0.007	14.62	1.1

* Ink-jet digital presses and the PTS-2 system were permitted in 2010 and therefore, there were no emissions from these units in 2009.

Table 3. 2009 Facility Hazardous Air Pollutant Emissions

Pollutant	Hazardous Air Pollutant Emissions in Tons/Year
Ethylene glycol (CAS 107-21-1)	0.5
TOTAL HAPS	0.5

Note: Combustion emissions of naphthalene, arsenic, chromium, cobalt, manganese, nickel, and lead were below one pound per year.

SHEETFED PRESS APPLICABLE REQUIREMENTS – Unit 751**Limitations**

The following VOC limitations, applicable to the sheetfed (nonheatset) press, are State BACT requirements from the minor NSR permit issued February 15, 2005, as amended August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 8, limiting the VOC composite partial vapor pressure of organic cleaning solvents to 10 mmHg at 68 °F and requiring that organic cleaning solvents, including those retained in used towels, be stored in a closed container when not in use
- Condition 16, limiting throughput of VOC in inks and fountain solutions to 17.1 tons per year and throughput of VOC in cleaning solvents to 7.9 tons/yr, each calculated monthly as the sum of the previous consecutive 12-month period
- Condition 21, limiting VOC emissions from the sheetfed press to 21.0 tons/yr, calculated monthly as the sum of the previous consecutive 12-month period
- Condition 24, limiting visible emissions to five percent opacity

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 29 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to monitor and record on a monthly basis the throughput of VOC (in inks, fountain solutions, and cleaning solvents) to the sheetfed press. The permit also requires that monthly and annual VOC emissions from the sheetfed press be calculated each month to demonstrate compliance with VOC emissions limits. Material Safety Data Sheets (MSDS) for all materials used are required to be maintained on site. The following assumptions, from EPA's draft Control Techniques Guidelines (CTG) for Control of VOC from Offset Lithographic Printing (EPA-453/D-95-001, September 1993) shall be used in calculating VOC emissions:

- 95 percent of nonheatset ink VOC is retained in paper substrate (five percent emitted)
- 100 percent of fountain solution VOC is emitted
- 50 percent of cleaning solvent applied is emitted (50 percent retained in used towels kept in closed containers)

Considering that the sheetfed press is operated at ambient temperature and that the inks employed are of low VOC content (primarily ultraviolet-cured inks are used), operation of the

sheetfed press is not expected to result in visible emissions. Accordingly, no monitoring has been included in the permit for the visible emissions limit on the sheetfed press.

The permit includes requirements to maintain records of all monitoring and testing required by the permit. Such records include VOC emission calculations and supporting VOC throughput and material formulation records. Condition III.B.1 requires that calculation of VOC emissions be made using the following formula:

$$E_{VOC} = \sum_{i=1}^n [(I_{VOC,i} \times 0.05) + FS_{VOC,i} + (BW_{VOC,i} \times 0.50)]$$

Where

- E_{VOC} = VOC emissions in tons per month
- I_{VOC} = Monthly throughput of VOC contained in ink, as applied (tons)
- FS_{VOC} = Monthly throughput of VOC contained in fountain solution (tons)
- BW_{VOC} = Monthly throughput of VOC contained in blanket wash or cleaning solvent (tons)
- i = Each ink, fountain solution, or blanket wash

For the purposes of calculating VOC emissions, the permit requires a tiered approach to determining VOC content in coating. Under certain circumstances, the permit allows the VOC content of coating as supplied used in emission calculations to be based on manufacturer formulation data as shown on the MSDS for each product. If a range of VOC content values is given, calculations shall be based on the maximum value. However, once the monthly calculation of actual emissions indicates that annual VOC emissions from any individual ink, fountain solution, coating, or other material are equal to or greater than 10% of the allowable annual emissions, quarterly testing of that product formulation is required. The testing shall be conducted, by either the permittee or the supplier, using EPA Reference Method 24 (40 CFR 60, Appendix A). Each shipment of subject material must be identified by a product formulation number that may be correlated to Reference Method 24 results. Emission calculations must be based on the most recent test results for each formulation. The quarterly tests may be discontinued after actual annual emissions from individual subject inks, fountain solutions, coatings, or other materials, are below 10 percent of the allowable levels for three consecutive months. If quarterly testing is discontinued, the permit requires that the VOC content determined in the latest test for each subject formulation be used in lieu of MSDS information.

Please note that RRD's Harrisonburg plant prints books using primarily one of two black inks. The two inks account for over 85 percent of the ink volume used at the facility. There are many individual colored inks used to fulfill various applications; most are used in very small amounts as needed for illustration or highlighting purposes and represent only a small fraction of the total ink used. Testing inks used in such small quantities (often less than 100 gallons a year) would be costly and would not be representative of the inks comprising the majority of the emissions. The tiered approach proposed, therefore, will ensure that VOC content is verified for those inks that

appreciably contribute to emissions and will thus provide a reasonable assurance of compliance with the emission limit.

Compliance Assurance Monitoring (CAM)

Press 751 does have add-on control equipment. Therefore, CAM is not applicable.

Testing

The permit does not require source tests. A table of test methods has been included in the permit if testing is performed. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements related to the sheetfed press.

WEB PRESS APPLICABLE REQUIREMENTS – Units 765-773, 782-785, 787, 790, and 791

Limitations

The following VOC limitations, applicable to the web (heatset) presses, are State BACT requirements from the minor NSR permit issued February 15, 2005, as amended August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 2, requiring that VOC emissions be controlled by using a fountain solution containing alcohol substitutes and limiting the VOC content of the fountain solution to no more than a daily average of five percent by weight
- Condition 3, limiting VOC content of inks used on Presses 765-773, 782-785, 787, 790, and 791 to 32 percent by weight, calculated as a monthly average
- Condition 4, limiting VOC content of inks used on Presses 767-769 and 783 to 28% by weight, as applied
- Condition 7, requires VOC emissions from Presses 770 and 772 to be controlled by the RTO
- Condition 8, limiting the VOC composite partial vapor pressure of organic cleaning solvents to 10 mmHg at 68 °F and requiring that organic cleaning solvents, including those retained in used towels, be stored in a closed container when not in use

- Condition 14, limiting fuels used in the heatset press dryers to natural gas and propane
- Condition 16, limiting the annual throughput of VOC in inks, fountain solutions, blanket washes and cleaning solvents used the heatset presses (some presses limited individually and some in groupings)
- Condition 21, limiting annual VOC emissions from the heatset presses (some presses limited individually and some in groupings)
- Condition 24, limiting visible emissions from heatset presses to ten percent opacity for uncontrolled presses and to five percent opacity for Presses 770 and 772.

At the time of issuance of the original Title V permit (dated March 15, 2001), most of the heatset presses were subject to a minor NSR permit dated May 3, 1979. On February 15, 2005, all presses were combined under a single minor NSR permit. The minor NSR permit has been amended on August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010.

The RTO has been installed for Presses 770 and 772; therefore the 10 percent opacity limit for uncontrolled presses no longer applies to Presses 770 and 772. The visible emission limitation (Condition 24 of the NSR permit) was amended in the Title V permit to exclude the 10 percent opacity limit for Presses 770 and 772.

Monitoring and Recordkeeping

The permit requires RRD to inspect each web press stack weekly for visible emissions. If any visible emissions are present, a six-minute visible emissions evaluation (VEE) must be conducted according to EPA Reference Method 9 (40 CFR 60, Appendix A). If during the six minutes any violations of the opacity standard are noted, a one-hour VEE is required to demonstrate compliance with the standard. Timely corrective action is required if a violation is determined to have occurred. Such requirements provide a reasonable assurance of compliance with the visible emissions limit. Please note that based on past inspection reports, it is unlikely that the visible emissions limit will be violated.

The monitoring and recordkeeping requirements in Condition 29 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to monitor and record on a monthly basis the throughput of VOC (in inks, fountain solutions, and cleaning solvents) to the heatset presses and the monthly average or as applied VOC contents of the inks, as applicable. The permit also requires that monthly and annual VOC emissions from the heatset presses be calculated each month to demonstrate compliance with VOC emissions limits. Material Safety Data Sheets (MSDS) for all materials used are required to be maintained on site. Presses 770 and 772 are controlled by the RTO. All remaining presses are uncontrolled. The RTO is required to maintain a destruction efficiency of 95.0 percent and a minimum combustion zone temperature. The combustion zone temperature is determined using data-logging probes;

therefore the requirement from Condition 11 of the NSR permit, calling for details regarding the method of calculation has been omitted from the Title V condition since it has already been fulfilled.

The following assumptions, from EPA's Control Techniques Guidelines (CTG) for Offset Lithographic Printing and Letterpress Printing (EPA-453/R-06-002, September 2006) shall be used in calculating VOC emissions for uncontrolled presses:

- 20 percent of ink VOC is retained in paper substrate (80 percent emitted)
- 100 percent of fountain solution VOC is emitted
- 50 percent of cleaning solvent applied is emitted (50 percent retained in used towels kept in closed containers)

The following additional assumptions shall be used in calculating VOC emissions for controlled presses:

- destruction efficiency of the RTO for ink VOC
- 30 percent of fountain solution VOC is emitted and 70 percent is controlled per the destruction efficiency of the RTO

The permit includes requirements to maintain records of all monitoring and testing required by the permit, derived from Condition 29 of the minor NSR permit. Such records include VOC emission calculations and supporting VOC throughput and material formulation records. Condition IV.B.2 requires that the monthly calculation of VOC emissions for Press 767 (individually), Presses 768 and 769 (combined), Press 783 (individually), and Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 (combined), be made using the following formula:

$$E_{VOC} = \sum_{i=1}^n \left[0.80I_{uVOC,i} + 0.80I_{cVOC,i} \left(1 - \frac{\varepsilon}{100} \right) + FS_{uVOC,i} + \left(0.30 + 0.70 \left(1 - \frac{\varepsilon}{100} \right) \right) FS_{cVOC,i} + 0.50CS_{mVOC,i} + CS_{aVOC,i} \right]$$

Where

- E_{VOC} = VOC emissions in tons per month
- I_{uVOC} = Monthly throughput of VOC contained in ink, as applied (tons) in uncontrolled presses
- I_{cVOC} = Monthly throughput of VOC contained in ink, as applied (tons) in controlled presses
- ε = RTO destruction efficiency (percent) as determined in testing of RTO

- FS_{uVOC} = Monthly throughput of VOC contained in fountain solution (tons)
in uncontrolled presses
- FS_{cVOC} = Monthly throughput of VOC contained in fountain solution (tons)
in controlled presses
- CS_{mVOC} = Monthly throughput of VOC contained in manual blanket
wash/cleaning solvent (tons)
- CS_{aVOC} = Monthly throughput of VOC contained in automatic blanket
wash/cleaning solvent (tons)
- i = Each ink, fountain solution, or cleaning solvent used

Please note that this formula has been updated over the years to reflect the changes at the facility.

For the purposes of calculating VOC emissions, the permit requires a tiered approach to determining VOC content in coating. Under certain circumstances, the permit allows the VOC content of coating as supplied used in emission calculations to be based on manufacturer formulation data as shown on the MSDS for each product. If a range of VOC content values is given, calculations shall be based on the maximum value. However, once the monthly calculation of actual emissions indicates that annual VOC emissions from any individual ink, fountain solution, coating, or other material are equal to or greater than 10 percent of the allowable annual emissions, quarterly testing of that product formulation is required. The testing shall be conducted, by either the permittee or the supplier, using EPA Reference Method 24 (40 CFR 60, Appendix A). Each shipment of subject material must be identified by a product formulation number that may be correlated to Reference Method 24 results. Emission calculations must be based on the most recent test results for each formulation. The quarterly tests may be discontinued after actual annual emissions from individual subject inks, fountain solutions, coatings, or other materials, are below 10 percent of the allowable levels for three consecutive months. If quarterly testing is discontinued, the permit requires that the VOC content determined in the latest test for each subject formulation be used in lieu of MSDS information.

Please note that RRD's Harrisonburg plant prints books using primarily one of two black inks. The two inks account for over 85 percent of the ink volume used at the facility. There are many individual colored inks used to fulfill various applications; most are used in very small amounts as needed for illustration or highlighting purposes and represent only a small fraction of the total ink used. Testing inks used in such small quantities (often less than 100 gallons a year) would be costly and would not be representative of the inks comprising the majority of the emissions. The tiered approach proposed, therefore, will ensure that VOC content is verified for those inks that appreciably contribute to emissions and will thus provide a reasonable assurance of compliance with the emission limit.

Compliance Assurance Monitoring (CAM)

The potential pre-control device emissions from Presses 770 and 772 (the two presses that will be controlled by the RTO) (combined) are as follows: 29.14 tpy VOCs and 4.92 tpy HAPs.

Since the pre-control VOC emissions are below 100 tpy, individual HAP emissions are less than 10 tpy, and total HAP emissions are less than 25 tpy, CAM is not applicable to Presses 770 and 772. Since none of the remaining web (heatset) presses have add-on control equipment, CAM is also not applicable to Presses 765-769, 771, 773, 782-785, 787, 790, and 791.

Testing

A condition was added to the permit that requires performance testing for the RTO serving Presses 770 and 772 at least once during the five year term of the permit. This testing is required to demonstrate the destruction efficiency of the RTO at 95.0 percent or greater. The initial performance tests were completed on November 13, 2007. The requirements in Conditions 26 and 27 of the minor NSR permit that RRD conduct additional performance tests for VOC from the RTO and additional VEE on the heatset presses, respectively, upon the request of DEQ has been included in the Title V permit. A condition requiring that the appropriate test methods be used if additional testing is performed has been included in the permit. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements related to the heatset presses.

INK-JET DIGITAL PRESS APPLICABLE REQUIREMENTS – Units 105-107

Limitations

The following VOC limitations, applicable to the ink-jet digital presses, are State BACT requirements from the minor NSR permit issued February 15, 2005, as amended August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 5, limiting VOC content of inks used on Presses 105-107 to no more than 0.833 lb/gal, by weight
- Condition 6, limiting VOC content of coatings used on Presses 105-107 to no more than 0.30 lb/gal, by weight
- Condition 8, limiting the VOC composite partial vapor pressure of organic cleaning solvents to 10 mmHg at 68 °F and requiring that organic cleaning solvents, including those retained in used towels, be stored in a closed container when not in use

- Condition 20, limiting VOC throughput in each Press (105-107) to 6.1 tons per year or less, calculated monthly as the sum of each consecutive 12-month period
- Condition 22, limiting hourly and annual VOC emissions from the ink-jet digital presses (105-107) to 1.4 lbs/hr and 6.1 tons/year, respectively, with annual emissions calculated monthly as the sum of the previous consecutive 12-month period
- Condition 25, limiting visible emissions from ink-jet digital presses (105-107) to ten percent opacity

The ink-jet digital printing presses (105-107) were originally permitted in a separate minor NSR permit dated March 23, 2010. On November 10, 2010, all of the requirements for the ink-jet digital presses were incorporated into the other minor NSR permit dated February 15, 2005, as amended August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010.

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 29 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to monitor and record on a monthly basis the throughput of VOC (in inks and coatings) to the ink-jet digital presses. The permit also requires that monthly and annual VOC emissions from the ink-jet digital presses be calculated each month to demonstrate compliance with VOC emissions limits. Material Safety Data Sheets (MSDS) for all materials used are required to be maintained on site.

The permit includes requirements to maintain records of all monitoring and testing required by the permit, derived from Condition 29 of the minor NSR permit. Such records include VOC emission calculations and supporting VOC throughput and material formulation records. For the purposes of calculating VOC emissions, it is assumed that 100 percent of the VOCs are emitted from the ink-jet digital presses with coating units.

Compliance Assurance Monitoring (CAM)

None of the ink-jet digital presses (105-107) has add-on control equipment and is therefore not subject to CAM.

Testing

The permit does not require source tests. The requirements in Condition 28 of the minor NSR permit that RRD conduct additional VEE on the ink-jet digital presses upon the request of DEQ has been included in the Title V permit. A condition requiring that the appropriate test methods be used if additional testing is performed has been included in the permit. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements related to the ink-jet digital presses with coating units.

**PAPER AND DUST HANDLING SYSTEMS APPLICABLE REQUIREMENTS –
Pneumatic Trim Scrap (PTS-1 and PTS-2) systems and Waste Paper Dust (WPD) system****Limitations**

The following particulate matter (PM) limitations, applicable to the scrap and dust handling systems, are State BACT requirements from the minor NSR permit issued February 15, 2005, as amended August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 9, requiring that PM from the WPD system be controlled by fabric filter
- Condition 18, limiting paper throughput to the PTS-1 to 38,600 tons/yr
- Condition 19, limiting paper throughput to the PTS-2 to 87,600 tons/yr
- Condition 23, limiting hourly and annual emissions from PTS-1 operations to 15 lbs/hr and 19.3 tons/yr, respectively, limiting short-term and annual emissions from PTS-2 operations to 0.05 gr/dscf and 9.0 tons/yr, respectively, and limiting emissions from binding line roughing operations (WPD system) to 0.01 gr/dscf and 2.6 tons/yr
- Condition 24, limiting visible emissions from PTS-1 operations to 20 percent opacity, those from PTS-2 operations to 10 percent opacity, and those from the WPD system to five percent opacity

Monitoring and Recordkeeping**PTS-1 and PTS-2**

The monitoring and recordkeeping requirements in Condition 29 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to perform weekly inspections of the stacks of the cyclones of the PTS-1 and the PTS-2 to assess the presence of visible emissions. If visible emissions are seen from the cyclones of the PTS-1 or PTS-2, the permit requires that an EPA Reference Method 9 test be performed. If the test indicates a violation, corrective action shall be taken.

The permit requires that RRD show compliance with the annual PTS-1 throughput limit by monitoring and recording the weight of paper trim scraps captured in the cyclones. Based on

testing at another RRD facility having similar printing and binding operations, RRD derived an emission factor correlating PM emissions to the amount of paper scraps recovered in the cyclones of the PTS-1 (one pound PM per ton paper scraps baled). Subsequently, reference method 5 testing of a similar unit indicated that the derived emission factor is conservative. The emission factor, along with records of paper scraps captured, will be used to calculate PM emissions from the cyclones of the PTS-1. Because the emission factor is one, the formula for calculating monthly PM emissions (E_{PM}) provided in the permit is simply the tons of paper scrap (S) divided by 2000, or

$$E_{PM} = \frac{S}{2000}$$

The throughput limit was derived based on allowable emissions and the emission factor provided by RRD and confirmed by test results. Therefore, compliance with the throughput limit assures compliance with the emission limit.

The permit requires RRD to keep monthly records of the annual throughput (tons) of paper shavings baled. RRD is also required to keep weekly records of the VE inspections performed on the PTS-1 cyclone stacks.

The permit requires that RRD show compliance with the annual PTS-2 throughput limit by monitoring and recording the hours of operation of the PTS-2. Based on manufacturer's specifications, RRD derived a conservative emission factor correlating PM emissions to the hours of operation of the cyclone (2.0 pounds PM per hour of PTS-2 operation). The emission factor, along with records of hours of operation, will be used to calculate PM emissions from the cyclone of the PTS-2. The formula to calculate PM emissions from PTS-2 is:

$$E_{PM} = \frac{(H)(EF)}{2000}$$

The throughput limit was derived based on allowable emissions and the emission factor provided by RRD. Therefore, compliance with the throughput limit assures compliance with the emission limit.

The permit requires RRD to keep monthly records of the annual throughput (tons) of paper shavings baled. RRD is also required to keep weekly records of the VE inspections performed on the PTS-2 cyclone stack.

WPD

The monitoring requirements in Condition 13 of the minor NSR permit require that each fabric filter be equipped with devices to continuously measure the differential pressure drop across the filter. In addition, the Title V permit requires RRD to maintain records of weekly inspections, the pressure drop across the fabric filters, and the annual fabric filter inspection results.

Compliance Assurance Monitoring (CAM)PTS-1 and PTS-2

The cyclones on the PTS-1 and PTS-2 systems are considered inherent and not add-on control equipment. Therefore, CAM is not applicable.

WPD

Each baghouse serving the WPD system has potential pre-control PM emissions above 100 tons/yr. The baghouses are used to meet the PM standard established in the minor NSR permit for the WPD system. Accordingly, each baghouse is subject to Compliance Assurance Monitoring (CAM) at 40 CFR 64.

During the previous Title V renewal process, RRD submitted a CAM Plan dated September 28, 2005 (and supplemental information dated March 6, 2006), proposing the following as indicators of compliance for each baghouse:

1. Differential pressure across the baghouse between 1.5 and 6.0 inches water column
2. The absence of visible emissions from the baghouse exhaust stack
3. Annual internal inspections to confirm structural integrity of the baghouse

The plan includes the rationale for indicator selection and range (differential pressure) and is included as Attachment C to the 2006 renewal SOB. The CAM Plan is derived from the periodic monitoring that was required for the baghouses in the initial Title V permit; it enhances the original monitoring by specifying the acceptable differential pressure range. Additionally, VRO staff added an option to conduct a Method 9 visible emissions evaluation if visible emissions are detected and specific recordkeeping requirements as part of the CAM Plan.

Rationale for Selection of Performance Indicators

The first indicator, differential pressure across the baghouse, is appropriate because baghouses are designed to operate at a relatively constant pressure drop. Monitoring pressure drop provides a means of detecting a change in operation that could lead to an increase in emissions. An increase in pressure drop can indicate that the cleaning cycle is not frequent enough, cleaning equipment is damaged, the bags are becoming inefficient, or the airflow has increased. A decrease in pressure drop may indicate broken or loose bags (but this is also indicated by the presence of visible emissions, indicator No. 2). A pressure drop across the baghouse also serves to indicate that there is airflow through the control device.

Visible emissions were selected as a performance indicator because it is indicative of good operation and maintenance of the baghouse. When the baghouse is operating properly, there will not be any visible emissions from the exhaust. Any increase in visible emissions indicates reduced performance of a particulate control device, therefore, the presence of visible emissions is used as a performance indicator.

Rationale for Selection of Indicator Ranges

The indicator range chosen for the baghouse pressure drop is between 0.5 and 4.5 (2.5 ± 2.0) in. H₂O. An excursion triggers an inspection, corrective action, and a reporting requirement. The pressure drop is recorded weekly. This indicator is also used to monitor for bypass of the control device. A pressure drop below 0.5 inches H₂O may indicate bypass or bag rupture. A pressure drop above the indicator range means that bag(s) need replacement or that the bag cleaning function is not working properly. Condition VI.C.6 requires investigation and correction of control device operation upon the detection of an excursion or exceedance. The QIP threshold for this indicator is no more than three excursions outside of the indicator range in any semi-annual reporting period.

The selected range for the second indicator is an average opacity greater than five percent during one six-minute period in any one hour. Certified Method 9 observer shall perform Method 9 VEE. Observations shall be taken at least once per week at each baghouse exhaust. The plan requires that the weekly observation initially be conducted to determine the presence or absence of visible emissions and the results recorded. If visible emissions are observed, a Method 9 VEE in accordance with 40 CFR 60, Appendix A may be conducted optionally to determine if an excursion occurs (results shall be recorded upon completion of each Method 9). If visible emissions are observed and a Method 9 VEE is not conducted, then an excursion is considered to have occurred. When an excursion occurs, corrective action will be initiated, beginning with an evaluation of the occurrence to determine the action required to correct the situation. All excursions will be documented and reported. An indicator range of five percent opacity was selected because: the WPD system is subject to a five percent opacity limit. The selected QIP threshold for baghouse visible emissions is no more than three excursions outside of the indicator range in any semi-annual reporting period. If the QIP threshold is exceeded in a semiannual reporting period, a QIP will be developed and implemented.

The approved CAM Plan, including indicators to be monitored, indicator measurement methods, and performance criteria in 40 CFR 64.3, were incorporated by reference into the previous Title V renewal permit. The Plan also defines what constitutes an excursion for each indicator and the threshold above which the number of excursions would require a Quality Improvement Plan (QIP). The permit also requires that records be kept of the monitoring required by the Plan and requires that reports of excursions, monitor downtime incidents and actions taken to implement a QIP be submitted semi-annually. The permit includes a condition stating RRD's obligation to conduct monitoring specified in the permit's CAM attachment. The differential pressure monitoring, visible emissions checks, and annual inspection requirements included in the

permit's CAM plan will provide an assurance of compliance with applicable requirements for each WPD baghouse and therefore satisfy the requirements of 40 CFR 64. The CAM conditions were updated per current DEQ boilerplate.

Testing

The permit does not require source tests. A condition requiring that the appropriate test methods be used if additional testing is performed has been included in the permit. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

There are no specific reporting requirements related to the paper and dust handling systems. The installation and startup notification requirements in Condition 31 of the minor-NSR permit have been fulfilled; the notification, received by VRO December 8, 2010, indicated that start up of PTS-2 was December 3, 2010.

ADHESIVE OPERATIONS APPLICABLE REQUIREMENTS – Unit ADH

Limitations

The following VOC limitations, applicable to adhesive operations, are State BACT requirements from the minor NSR permit issued February 15, 2005, as amended August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010. Condition numbers are from the minor NSR permit; a copy of the permit is attached as Attachment B.

- Condition 8, limiting the VOC composite partial vapor pressure of organic cleaning solvents to 10 mmHg at 20 °C and requiring that organic cleaning solvents, including those retained in used towels, be stored in a closed container when not in use
- Condition 16, limiting VOC throughput to 12.5 tons/yr
- Condition 21, limiting VOC emissions to 12.5 tons/yr
- Condition 24, limiting visible emissions to five percent opacity

Monitoring and Recordkeeping

The monitoring and recordkeeping requirements in Condition 29 of the minor NSR permit have been modified to meet Part 70 requirements. The permittee is required to monitor and record on a monthly basis the throughput of VOC in adhesives applied on the binding lines and calculate monthly and annual VOC emissions to demonstrate compliance with VOC limits. Material Safety Data Sheets (MSDS) for all adhesives used are required to be maintained on site. In calculating VOC emissions, it is assumed that all VOC applied is eventually emitted to the

atmosphere. The VOC content of adhesives, as supplied, shall be that indicated on the MSDS for each product.

Emissions from adhesive operations are required to be calculated monthly as follows:

$$E_{VOC} = \sum_{i=1}^n ADH_{VOC,i} + CS_{VOC,i}$$

Where

E_{VOC} = VOC emissions in tons per month

ADH_{VOC} = Monthly throughput of VOC contained in adhesives, as applied (tons)

CS_{VOC} = Monthly throughput of VOC contained in cleaning solvent (tons)

i = Each stain or solvent used

The recordkeeping requirements in Condition 29 of the Minor NSR Permit have been modified to meet Part 70 requirements. Required records include amount of VOC used and emitted in adhesive operations, including those in the adhesives themselves and those in cleaning solvents. Certified MSDS showing VOC content of each adhesive used must also be maintained.

Compliance Assurance Monitoring (CAM)

The emissions from the adhesive operations are less than 100 tpy and there is no add-on control equipment. Therefore, the adhesive operations are not subject to CAM.

Testing

There are no source test requirements for the process. A condition requiring that the appropriate test methods be used if additional testing is performed has been included in the permit. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

FACILITY WIDE REQUIREMENTS – Units EG-1 and EG-2

Limitations

The following limitations, applicable to the natural gas engines for the emergency generators (EG-1 and EG-2), are requirements from 40 CFR 63, Subpart ZZZZ (NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)):

- Condition VIII.A.1, requiring maintenance requirements including oil and filter changes every 500 hours of operation or annually, spark plugs inspection every 1,000 hours of

operation or annually, and hoses and belts inspection every 500 hours of operation or annually

- Condition VIII.A.2, requires the permittee to minimize the engine's time spent at idle and to minimize the engine's startup time at startup
- Condition VIII.A.3, requires the development of a maintenance plan for the natural gas-fired engines for the emergency generators (EG-1 and EG-2)
- Condition VIII.A.4, requires the installation of a non-resettable hour meter on each natural gas-fired engine if one is not already installed
- Condition VIII.A.5, provides no time limits on the use of the engines in emergency situations but requires limiting the operation of the natural gas-fired engines for maintenance checks and readiness testing to 100 hours per year and limiting engine operation to 50 hours per year in non-emergency situations with those 50 hours counted towards the 100 hours per year for maintenance and testing

Monitoring and Recordkeeping

The permittee is required to record the maintenance conducted on the natural gas-fired engines for the emergency generators (EG-1 and EG-2) and the hours of operation to demonstrate compliance with the operating limits.

Compliance Assurance Monitoring (CAM)

There is no add-on control equipment for the emergency generators and therefore, they are not subject to CAM.

Reporting

RRD is required to report each instance when the maintenance requirements of Condition VIII.A.1 are not met. Each instance must be reported as a deviation in the semiannual monitoring report.

Testing

There are no source test requirements for the process. A condition requiring that the appropriate test methods be used if additional testing is performed has been included in the permit. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-2003".

This general condition cites the sections that follow:

9 VAC 5-80-80. Application

9 VAC 5-80-140. Permit Shield

9 VAC 5-80-150. Action on Permit Applications

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9 VAC 5-50-410 or 9 VAC 5-40-41.

This general condition cites the sections that follow:

9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources

9 VAC 5-40-50. Notification, Records and Reporting

9 VAC 5-50-50. Notification, Records and Reporting

J. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources

9 VAC 5-80-190. Changes to Permits.

9 VAC 5-80-260. Enforcement.

9 VAC 5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9 VAC 5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications

Located in Prevention of Significant Deterioration Areas

9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications

Locating in Nonattainment Areas

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

9 VAC 5-80-110. Permit Content

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

FUTURE APPLICABLE REQUIREMENTS

The facility did not identify any future applicable requirements in the application. This facility is a major source of HAPS and is subject to 40 CFR Part 63 Subpart ZZZZ (NESHAP for Stationary Reciprocating Internal Combustion Engines (RICE)). RRD has to be in compliance with the applicable requirements by May 3, 2013. These requirements have been included in the permit under the Facility Wide Conditions section.

A review of the promulgated National Emissions Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters in 40 CFR 63, Subpart DDDDD indicates those standards may apply to the boilers HWB and SB. The final rule was published in the Federal Register on March 21, 2011. Normally, the compliance date for existing sources is three years after publication in the Federal Register. However, in the Federal Register published May 18, 2011 (76 FR 28662), EPA postponed the effectiveness of the Major Source Boiler MACT (Subpart DDDDD) until proceedings for judicial review of the rule are complete or the EPA completes its reconsideration of the rule, whichever is earlier, and EPA publishes a notice in the Federal Register announcing that the rule is in effect. The applicable requirements from Subpart DDDDD will be included in the next permit renewal. However, the source must comply with the applicable provisions of the subpart in accordance with indicated compliance times even if those requirements are not included in the permit.

INAPPLICABLE REQUIREMENTS

The following regulations were identified by the permittee as inapplicable:

9 VAC 5 Chapter 40 Article 31 (Rule 4-31). Emission Standards for Paper and Fabric Coating Application Systems: Rule 4-31 applies only to facilities located in VOC control areas. RRD is not located in a VOC control area. Additionally, RRD conducts printing, not coating, operations.

9 VAC 5 Chapter 40 Article 36 (Rule 4-36). Emission Standards for Flexographic Packaging, Rotogravure and Publication Rotogravure Printing Lines: RRD does not operate flexographic or rotogravure printing presses.

9 VAC 5 Chapter 40, Article 53 (Rule 4-53). Emission Standards for Lithographic Printing Processes: Rule 4-53 applies only to facilities located in designated VOC control areas. RRD is not located in a VOC control area.

40 CFR 63 Subpart KK (National Emission Standards for Hazardous Air Pollutants from the Printing and Publishing Industry: Subpart KK applies to flexographic and rotogravure presses; lithographic printing presses were excluded from the definition of affected source under the rule. Therefore, RRD's Harrisonburg facility is not subject to the standard.

40 CFR 60 Subpart Kb, New Source Performance Standards for Volatile Organic Liquid Storage Vessels: The minimum tank capacity to which 40 CFR 60 Subpart Kb is applicable is 19,812.9 gallons. All storage tanks at the RRD facility have capacities lower than the threshold.

40 CFR 63 Subpart EEEE (National Emission Standards for HAPs from Organic Liquids Distribution): Subpart EEEE has a storage tank applicability threshold of 5,000 gallons. The RRD facility has no tanks that exceed the applicability threshold. Furthermore, transfer operation standards apply to facilities that transfer organic liquids out of the facility; RRD does not transfer solvents out of the facility.

40 CFR 63 Subpart JJJJ (National Emission Standards for Hazardous Air Pollutants from Paper and Other Web Coating): Subpart JJJJ specifically excludes lithographic web coating from the rule at 40 CFR 63.3300(c). Therefore, RRD's Harrisonburg facility is not subject to the standard.

In addition, DEQ identified the following regulation as inapplicable:

40 CFR Part 98 – Mandatory Greenhouse Gas Reporting: The provisions of 40 CFR Part 98 require owners and operators of general stationary fuel combustion sources that emit 25,000 metric tons CO_{2e} or more per year in combined emissions from such units, to report greenhouse gas (GHG) emissions, annually. The definition of “applicable requirement” in 40 CFR 70.2 and 71.2 does not include requirements such as those included in Part 98, promulgated under Clean Air Act (CAA) section 114(a)(1) and 208. Therefore, the requirements of 40 CFR Part 98 are not applicable under the Title V permitting program.

As a result of several EPA actions regarding GHG under the CAA, emissions of GHG must be addressed for a Title V permit renewed after January 1, 2011. The current state minor NSR permit for the RRD facility contains no GHG-specific applicable requirements and there have been no modifications at the facility requiring a PSD permit. Therefore, there are no applicable requirements for the facility specific to GHG.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Table 4. Insignificant emission units

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (5-80-720B)	Rated Capacity (5-80-720C)
ADH-TKS	Water-based adhesive tanks	9 VAC 5-80-720B	VOC	-
BAT	Battery chargers	9 VAC 5-80-720B	PM, acid vapors	-
BH	Binder heaters (combustion)	9 VAC 5-80-720C	-	0.1 MMBtu/hr
CHL	Water chillers	9 VAC 5-80-720B	CFC	-
FP	Fire pump (combustion)	9 VAC 5-80-720C	-	1.6 MMBtu/hr
DEV	Plate & film developers	9 VAC 5-80-720B	VOC	-
FLM	Manual film cleaning	9 VAC 5-80-720B	VOC	-
HWB	Hot water boilers (combustion for space heat)	9 VAC 5-80-720C	-	6.7 MMBtu/hr
IJP	Ink jet printers	9 VAC 5-80-720B	VOC	-
PV	Propane vaporizer (combustion)	9 VAC 5-80-720C	-	< 10 MMBtu/hr
PW	Parts washers	9 VAC 5-80-720B	VOC	-
PST	Propane storage tanks	9 VAC 5-80-720B	VOC	-
SB	Steam boilers (combustion)	9 VAC 5-80-720C	-	2.2 MMBtu/hr
UST	Underground storage tanks	9 VAC 5-80-720B	VOC	-
WH	Water heaters (combustion)	9 VAC 5-80-720C	-	0.8 MMBtu/hr
WST	Waste storage tank	9 VAC 5-80-720C	-	3,000 gallons

¹The citation criteria for insignificant activities are as follows:

9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

9 VAC 5-80-720 B - Insignificant due to emission levels

9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The draft permit was placed on public notice in the Harrisonburg Daily News Record on August 4, 2011. The public comment period ended 30 days later on September 4, 2011. The draft and supporting documentation were available for public review during the public comment period. No comments were received.

EPA Region III was provided a copy of the proposed permit on August 2, 2011, and its 45-day review period ended on September 19, 2011. No comments from EPA were received.

ATTACHMENTS

- A: 2009 annual emissions report
- B: Minor NSR permit dated February 15, 2005, as amended August 11, 2005, April 28, 2006, February 23, 2007, April 30, 2007, June 21, 2007, and November 10, 2010

ATTACHMENT A
2009 Emissions Report

**Commonwealth of Virginia
Department of Environmental Quality
Consolidated Plant Emissions Report**

Registration No: 81000 FIPS County Code: 165 Year of Emissions: 2009
Plant Name: R R Donnelley & Sons Co Harrisonburg Mfg North Plant ID: 00114 Last Annual Update: 2010

GENERAL INFORMATION

Facility Name: R R Donnelley & Sons Co Harrisonburg Mfg North

Location Address: 2347 Kratzer Road
Harrisonburg

VA 22802

Mailing Address: 2347 Kratzer Road
Harrisonburg

VA 22802

Annual Update Contact: Rogers, Justin

Phone Number: (540) 564 - 9548

Principal Product: book printing

Comments: for both Kratzer Road (North) and Willow Spring Road (South)

Facility Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	PM	14.6208520000		
	SO2	0.0065820000		
	PM 10	14.6208520000		
	VOC	64.5803350000		
	NO2	1.0970000000		
	NH3	0.0351040000		
	CO	0.9214800000		

UTM Zone: 17
UTM Vertical (KM): 4261.2
UTM Horizontal (KM): 687
Latitude: 38° 0' 28" 42"
Longitude: -78° 0' 51" 36"
Property Area (Acres): 0
No. of Employees: 900
Primary SIC Code: 2732

STACK INFORMATION: Number: 1 Description: Boiler 1

Stack Height(ft): 34 UTM Zone: 17
Stack Diameter(ft): 1.29 UTM Vertical(KM): 4261.19
Exit Gas Temperature(F): 350 UTM Horizontal(KM): 687
Gas Flow Rate(ACFM): 2800 GEP Stack Height: 0
Exit Gas Velocity(ft/sec): 35.71 GEP Building Height: 0
Stack Type: V GEP Building Length: 0
Plume Height(ft): 0 GEP Building Width: 0
Permitted Equipment: N Rough Terrain: N
Elevation (ft above MSL): 1475

Stack Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	CO	0.0000000000		
	NH3	0.0000000000		
	NO2	0.0000000000		

Commonwealth of Virginia
Department of Environmental Quality
Consolidated Plant Emissions Report

PM 0.0000000000
 PM 10 0.0000000000
 SO₂ 0.0000000000
 VOC 0.0000000000

POINT INFORMATION: Number: 1 Description: Boiler 1 (space heat - natural gas)

Design Capacity & Units: 8 MILLION BTUS
 Per HOUR

% Throughput: DEC-FEB: 50 MAR-MAY: 25 JUN-AUG: 0 SEP-NOV: 25
 Operating Schedule: Hours/Day: 24 Days/Week: 7 Hours/Year: 4032

State Sensitive: N
 Permitted Equipment: N
 Space Heat (%): 99.9
 Air Program Sub Part

Point Emissions	Pollutant	Emissions Value (tpy)	Allowable Value Units
	CO	0.0000000000	
	NH ₃	0.0000000000	
	NO ₂	0.0000000000	
	PM	0.0000000000	
	PM 10	0.0000000000	
	SO ₂	0.0000000000	
	VOC	0.0000000000	

SEGMENT INFORMATION: Number: 1 Description: BLR-1 SPACE HEAT/NAT.GAS

Source Classification Code:	10200603	SCC Description:	< 10 Million Btu/hr
Actual Annual Throughput:	0	SCC Units:	Million Cubic Feet Burned
Max. Hourly Operation Rate:	008	Trace%:	0
State Sensitive:	N	Ash%:	0
Permitted Equipment:	N	Heat Content (MMBTU):	1000
Insignificant Activity:	N	Throughput Limit:	
Pollution Prevention:	N	Throughput Unit:	
		Sulfur%:	0

Pollution Prevention Comments:
 Segment Comments:

Segment Emissions Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
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SO2	Federal factor (auto calc)	0.6000000000	0.000000000
NH3	Federal factor (auto calc)	3.2000000000	0.000000000
VOC	Federal factor (auto calc)	5.5000000000	0.000000000
PM	Federal factor (auto calc)	7.6000000000	0.000000000
PM 10	Federal factor (auto calc)	7.6000000000	0.000000000
CO	Federal factor (auto calc)	84.0000000000	0.000000000
NO2	Federal factor (auto calc)	100.0000000000	0.000000000

STACK INFORMATION: Number: 2 Description: Boiler 2

Stack Height(ft):	34	UTM Zone:	17
Stack Diameter(ft):	1.29	UTM Vertical(KM):	4261.19
Exit Gas Temperature(F):	350	UTM Horizontal(KM):	687
Gas Flow Rate(ACFM):	2800	GEP Stack Height:	0
Exit Gas Velocity(ft/sec):	35.71	GEP Building Height:	0
Stack Type:	V	GEP Building Length:	0
Plume Height(ft):	0	GEP Building Width:	0
Permitted Equipment:	N	Rough Terrain:	N
		Elevation (ft above MSL):	1475

Stack Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	CO	0.9214800000		
	NH3	0.0351040000		
	NO2	1.0970000000		
	PM	0.0833720000		
	PM 10	0.0833720000		
	SO2	0.0065820000		
	VOC	0.0603350000		

POINT INFORMATION: Number: 2 Description: Boiler 2 (space heat - natural gas)

Design Capacity & Units:	8 MILLION BTUS Per HOUR	State Sensitive:	N
% Throughput: DEC-FEB: 50 MAR-MAY: 25 JUN-AUG: 0 SEP-NOV: 25		Permitted Equipment:	N
		Space Heat (%):	99.9

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Operating Schedule: Hours/Day: 24 Days/Week: 7 Hours/Year: 4032 Air Program Sub Part

Point Emissions

Pollutant	Emissions Value (tpy)	Allowable Value	Units
CO	0.9214800000		
NH3	0.0351040000		
NO2	1.0970000000		
PM	0.0833720000		
PM 10	0.0833720000		
SO2	0.0065820000		
VOC	0.0603350000		

SEGMENT INFORMATION: Number: 1 Description: BLR-2 SPACE HEAT/NAT GAS

Source Classification Code:	10200603	SCC Description:	< 10 Million Btu/hr
Actual Annual Throughput:	21.94	SCC Units:	Million Cubic Feet Burned
Max. Hourly Operation Rate:	.008	Trace%:	0 Ash%: 0 Sulfur%: 0
State Sensitive:	N	Heat Content (MMBTU):	1000
Permitted Equipment:	N	Throughput Limit:	
Insignificant Activity:	N	Throughput Unit:	
Pollution Prevention:	N		

Pollution Prevention Comments:

Segment Comments:

Segment Emissions Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
SO2	Federal factor (auto calc)	0.6000000000					0.00658200		
NH3	Federal factor (auto calc)	3.2000000000					0.03510400		
VOC	Federal factor (auto calc)	5.5000000000					0.06033500		
PM	Federal factor (auto calc)	7.6000000000					0.08337200		
PM 10	Federal factor (auto calc)	7.6000000000					0.08337200		

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CO	Federal factor (auto calc)	84.000000000000	0.92148000
NO2	Federal factor (auto calc)	100.000000000000	1.09700000

STACK INFORMATION: Number: 3 Description: Presses 765-766, 770-773, 782, 784-785, 787, 790 & 791

Stack Height(ft):	14	UTM Zone:	17
Stack Diameter(ft):	1.2	UTM Vertical(KM):	4261.19
Exit Gas Temperature(F):	350	UTM Horizontal(KM):	687
Gas Flow Rate(ACFM):	4000	GEP Stack Height:	0
Exit Gas Velocity(ft/sec):	58.95	GEP Building Height:	0
Stack Type:	V	GEP Building Length:	0
Plume Height(ft):	0	GEP Bulding Width:	0
Permitted Equipment:	N	Rough Terrain:	N
		Elevation (ft above MSL):	1475

Stack Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	PM 10	0.0000000000		
	VOC	52.0300000000	69.5000000000	tons/yr

POINT INFORMATION: Number: 20 Description: Presses 765-766, 770-773, 782, 784-785, 787, 790 & 791

Design Capacity & Units: 0 MILLION BTUS
Per HOUR

% Throughput: DEC-FEB: 25 MAR-MAY: 25 JUN-AUG: 25 SEP-NOV: 25
Operating Schedule: Hours/Day: 24 Days/Week: 6 Hours/Year: 7488

State Sensitive: N
Permitted Equipment: N
Space Heat (%): 0
Air Program: Sub Part

Point Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	PM 10	0.0000000000		
	VOC	52.0300000000		

SEGMENT INFORMATION: Number: 1 Description: VOC LOSS - Pr 765-766, 770-773, 782, 784-785, 787, 790 & 791

Source Classification Code:	49099999	SCC Description:	Identify the Process and Solvent in Comments
Actual Annual Throughput:	52.03	SCC Units:	Tons Solvent Consumed
Max. Hourly Operation Rate:	55	Trace%:	0
State Sensitive:	N	Ash%:	0
Permitted Equipment:		Sulfur%:	0

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Heat Content (MMBTU): 0

Insignificant Activity:

Throughput Limit:

Pollution Prevention:

Throughput Unit:

Pollution Prevention Comments:

Segment Comments:

Segment Emissions

Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
PM 10	Supplied factor (auto calc)	0.0000000000					0.00000000		
VOC	Supplied factor (auto calc)	2000.000000000000					52.03000000		

STACK INFORMATION: Number: 4

Description: Waste Paper Shavings - Cyclones

Stack Height(ft):	63	UTM Zone:	17
Stack Diameter(ft):	7.25	UTM Vertical(KM):	4261.19
Exit Gas Temperature(F):	75	UTM Horizontal(KM):	687
Gas Flow Rate(ACFM):	24760	GEP Stack Height:	0
Exit Gas Velocity(ft/sec):	10	GEP Building Height:	0
Stack Type:	V	GEP Building Length:	0
Plume Height(ft):	0	GEP Building Width:	0
Permitted Equipment:	N	Rough Terrain:	N
		Elevation (ft above MSL):	1475

Stack Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	PM	13.9975000000	15.0000000000	lbs/hr
	PM 10	13.9975000000	19.3000000000	tons/yr

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POINT INFORMATION: Number: 21 Description: Point 021 DescriptionDesign Capacity & Units: 0 MILLION BTUS
Per HOUR

% Throughput: DEC-FEB: 25 MAR-MAY: 25 JUN-AUG: 25 SEP-NOV: 25
 Operating Schedule: Hours/Day: 24 Days/Week: 6 Hours/Year: 7488

State Sensitive: N
 Permitted Equipment: N
 Space Heat (%): 0
 Air Program Sub Part

Point Emissions	Pollutant	Emissions Value (tpy)	Allowable Value Units
PM	PM	13.9975000000	15.0000000000 lbs/yr
PM 10	PM 10	13.9975000000	19.3000000000 tons/yr

SEGMENT INFORMATION: Number: 1 Description: WASTE PAPER SHAVINGS

Source Classification Code: 30700401 SCC Description: Paperboard: General
 Actual Annual Throughput: 27995
 Max. Hourly Operation Rate: 1.53
 State Sensitive: N Trace%: 0 Ash%: 0 Sulfur%: 0
 Permitted Equipment: N Heat Content (MMBTU): 0
 Insignificant Activity: N Throughput Limit:
 Pollution Prevention: N Throughput Unit:

Pollution Prevention Comments:

Segment Comments:

Segment Emissions Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
PM	Supplied factor (auto calc)	1.0000000000					13.997500000		
PM 10	Supplied factor (auto calc)	1.0000000000					13.997500000		

STACK INFORMATION: Number: 5 Description: Sheetfed press #751

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Stack Height(ft): 36 Stack Diameter(ft): 2 Exit Gas Temperature(F): 80 Gas Flow Rate(ACFM): 5975 Exit Gas Velocity(ft/sec): 31.7 Stack Type: H Plume Height(ft): 0 Permitted Equipment: N	UTM Zone: 17 UTM Vertical(KM): 4261.2 UTM Horizontal(KM): 687 GEP Stack Height: 0 GEP Building Height: 0 GEP Building Length: 0 GEP Building Width: 0 Rough Terrain: N Elevation (ft above MSL): 1475
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POINT INFORMATION: Number: 22 Description: Sheeffed press #751

Design Capacity & Units: 0
Per

% Throughput: DEC-FEB: 25 MAR-MAY: 25 JUN-AUG: 25 SEP-NOV: 25
 Operating Schedule: Hours/Day: 24 Days/Week: 6 Hours/Year: 7488

State Sensitive: N
 Permitted Equipment: N
 Space Heat (%): 0
 Air Program Sub Part

Point Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	VOC	2.7000000000	21.0000000000	tons/yr

SEGMENT INFORMATION: Number: 1 Description: VOC LOSS-S/F PRESS #751

Source Classification Code: 490999999	SCC Description: Identify the Process and Solvent in Comments	SCC Units: Tons Solvent Consumed	Trace%: 0	Ash%: 0	Sulfur%: 0
Actual Annual Throughput: 2.7					
Max. Hourly Operation Rate: 0					
State Sensitive: N					
Permitted Equipment: N					
Insignificant Activity: N					
Pollution Prevention: N					
		Heat Content (MMBTU): 0			
		Throughput Limit:			
		Throughput Unit:			

Pollution Prevention Comments:
 Segment Comments:

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Segment Emissions Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
VOC	Supplied factor (auto calc)	2000.000000000000					2.700000000		

STACK INFORMATION:		Number: 7	Description: Waste dust collection (baghouse)	UTM Zone:	17
Stack Height(ft):	56	UTM Vertical(KM):		4261.19	
Stack Diameter(ft):	1.67	UTM Horizontal(KM):		687	
Exit Gas Temperature(F):	80	GEP Stack Height:		0	
Gas Flow Rate(ACFM):	6000	GEP Building Height:		0	
Exit Gas Velocity(ft/sec):	45.65	GEP Building Length:		0	
Stack Type:	V	GEP Building Width:		0	
Plume Height(ft):	0	Rough Terrain:		N	
Permitted Equipment:	N	Elevation (ft above MSL):		1475	

POINT INFORMATION: Number: 24									
				Description: Waste dust collection					
Design Capacity & Units:				State Sensitive: N					
Per				Permitted Equipment: N					
0				Space Heat (%): 0					
				Air Program					
				Sub Part					

% Throughput: DEC-FEB: 25 MAR-MAY: 25 JUN-AUG: 25 SEP-NOV: 25
 Operating Schedule: Hours/Day: 24 Days/Week: 6 Hours/Year: 7488

Point Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	PM	0.5399800000	0.0100000000	gr/dscf
	PM 10	0.5399800000	2.6000000000	tons/yr

SEGMENT INFORMATION: Number: 1									
				Description: Waste dust collection					
Source Classification Code: 30700401				SCC Description: Paperboard: General					
Actual Annual Throughput: 96425				SCC Units: Tons Finished Product					

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Max. Hourly Operation Rate: 0 Trace%: 0 Ash%: 0 Sulfur%: 0
 State Sensitive: N
 Permitted Equipment: N
 Heat Content (MMBTU): 0
 Insignificant Activity: N
 Throughput Limit:
 Pollution Prevention: N
 Throughput Unit:

Pollution Prevention Comments:
 Segment Comments:

Segment Emissions Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
PM	Supplied factor (auto calc)	1.1200000000		018		99	0.53998000		
				018 = Fabric Filter - Low Temperature i.e. T<180F					
PM 10	Supplied factor (auto calc)	1.1200000000		018		99	0.53998000		
				018 = Fabric Filter - Low Temperature i.e. T<180F					

STACK INFORMATION:		Number: 8	Description: Press 767	UTM Zone: 17
Stack Height(ft):	40			UTM Vertical(KM): 4261.19
Stack Diameter(ft):	1.06			UTM Horizontal(KM): 687
Exit Gas Temperature(F):	250			GEP Stack Height: 0
Gas Flow Rate(ACFM):	3100			GEP Building Height: 0
Exit Gas Velocity(ft/sec):	58.55			GEP Building Length: 0
Stack Type:	V			GEP Building Width: 0
Plume Height(ft):	0			Rough Terrain: N
Permitted Equipment:	N			Elevation (ft above MSL): 1475

Stack Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	VOC	2.5900000000		

POINT INFORMATION: Number: 25 Description: Press 767

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Design Capacity & Units: 0
Per

% Throughput: DEC-FEB: 25 MAR-MAY: 25 JUN-AUG: 25 SEP-NOV: 25
Operating Schedule: Hours/Day: 24 Days/Week: 6 Hours/Year: 7488

State Sensitive: N
Permitted Equipment: N
Space Heat (%): 0
Air Program Sub Part

Point Emissions	Pollutant	Emissions Value (tpy)	Allowable Value Units
VOC		2.5900000000	4.8000000000 tons/yr

SEGMENT INFORMATION: Number: 1 Description: VOC Loss - Press 767

Source Classification Code: 49099999 SCC Description: Identify the Process and Solvent in Comments

Actual Annual Throughput: 2.59

Max. Hourly Operation Rate: 0

State Sensitive: N

Permitted Equipment: N

Insignificant Activity: N

Pollution Prevention: N

SCC Units: Tons Solvent Consumed

Trace%: 0 Ash%: 0 Sulfur%: 0

Heat Content (MMBTU): 0

Throughput Limit:

Throughput Unit:

Pollution Prevention Comments:

Segment Comments:

Segment Emissions
Pollutant Method

Factor A/S/T Primary Control Secondary Control Overall Efficiency % Emissions Value (tpy) Allowable Value Units

VOC	Supplied factor (auto calc)	2000.0000000000							2.590000000	
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STACK INFORMATION: Number: 9 Description: Presses 768 & 769

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Stack Height(ft):	40	UTM Zone:	17
Stack Diameter(ft):	1.06	UTM Vertical(KM):	4261.19
Exit Gas Temperature(F):	250	UTM Horizontal(KM):	687
Gas Flow Rate(ACFM):	3100	GEP Stack Height:	0
Exit Gas Velocity(ft/sec):	58.55	GEP Building Height:	0
Stack Type:	V	GEP Building Length:	0
Plume Height(ft):	0	GEP Building Width:	0
Permitted Equipment:	N	Rough Terrain:	N
Stack Emissions	Pollutant:	Elevation (ft above MSL):	1475
VOC	Emissions Value (tpy)	Allowable Value	Units
	0.000000000	6.300000000	tons/yr

POINT INFORMATION: Number: 26 Description: Presses 768 & 769

Design Capacity & Units:	0	State Sensitive:	N
Per		Permitted Equipment:	N
% Throughput: DEC-FEB: 25 MAR-MAY: 25 JUN-AUG: 25 SEP-NOV: 25		Space Heat (%):	0
Operating Schedule: Hours/Day: 24 Days/Week: 6 Hours/Year: 7488		Air Program	Sub Part

Point Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
VOC		0.000000000	6.300000000	tons/yr

SEGMENT INFORMATION: Number: 1 Description: VOC Loss - Presses 768 & 769

Source Classification Code:	49099999	SCC Description:	Identify the Process and Solvent in Comments		
Actual Annual Throughput:	0	SCC Units:	Tons Solvent Consumed		
Max. Hourly Operation Rate:	0	Trace%:	0	Ash%:	0
State Sensitive:	N	Heat Content (MMBTU):	0	Sulfur%:	0
Permitted Equipment:	N	Throughput Limit:			
Insignificant Activity:	N	Throughput Unit:			
Pollution Prevention:	N				

Pollution Prevention Comments:
Segment Comments:

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Segment Emissions Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
VOC	Supplied factor (auto calc)	2000.000000000000					0.000000000		

STACK INFORMATION: Number: 10 Description: Press 783									
Stack Height(ft):	40	UTM Zone: 17							
Stack Diameter(ft):	1.06	UTM Vertical(KM): 4261.19							
Exit Gas Temperature(F):	250	UTM Horizontal(KM): 687							
Gas Flow Rate(ACFM):	3100	GEP Stack Height: 0							
Exit Gas Velocity(ft/sec):	58.55	GEP Building Height: 0							
Stack Type:	V	GEP Building Length: 0							
Plume Height(ft):	0	GEP Building Width: 0							
Permitted Equipment:	N	Rough Terrain: N							
		Elevation (ft above MSL): 1475							

POINT INFORMATION: Number: 27 Description: Press 783									
Design Capacity & Units:	0	State Sensitive: N							
	Per	Permitted Equipment: N							
% Throughput: DEC-FEB: 25 MAR-MAY: 25 JUN-AUG: 25 SEP-NOV: 25		Space Heat (%): 0							
Operating Schedule: Hours/Day: 24 Days/Week: 6 Hours/Year: 7488		Air Program							
		Sub Part							

Point Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
	VOC	4.1000000000	5.2000000000	tons/yr

SEGMENT INFORMATION: Number: 1 Description: VOC Loss - Press 783				
Source Classification Code:	49099999	SCC Description: Identify the Process and Solvent in Comments		
Actual Annual Throughput:	4.1			
Max. Hourly Operation Rate:	0	SCC Units:	Tons Solvent Consumed	
State Sensitive:	N	Trace%:	0	Ash%: 0 Sulfur%: 0
Permitted Equipment:	N			

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Heat Content (MMBTU): 0

Insignificant Activity:

N

Throughput Limit:

Pollution Prevention:

N

Throughput Unit:

Pollution Prevention Comments:

Segment Comments:

Segment Emissions

Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
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VOC	Supplied factor (auto calc)	2000.000000000000					4.100000000		
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STACK INFORMATION:

Description: Adhesive operations

Number: 11

Stack Height(ft):	26	UTM Zone:	17
Stack Diameter(ft):	1	UTM Vertical(KM):	4261.2
Exit Gas Temperature(F):	75	UTM Horizontal(KM):	687
Gas Flow Rate(ACFM):	1000	GEP Stack Height:	0
Exit Gas Velocity(ft/sec):	21.22	GEP Building Height:	0
Stack Type:	V	GEP Building Length:	0
Plume Height(ft):	0	GEP Building Width:	0
Permitted Equipment:	Y	Rough Terrain:	N
		Elevation (ft above MSL):	1480

Stack Emissions	Pollutant	Emissions Value (tpy)	Allowable Value	Units
VOC	VOC	3.1000000000	12.5000000000	tons/yr

POINT INFORMATION:

Description: Adhesive operations

Number: 23

Design Capacity & Units:

0

State Sensitive: N
Permitted Equipment: Y

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Per

% Throughput: DEC-FEB: 25 MAR-MAY: 25 JUN-AUG: 25 SEP-NOV: 25
Operating Schedule: Hours/Day: 24 Days/Week: 7 Hours/Year: 8760

Space Heat (%): 0
Air Program Sub Part
TITLE V
SIP

Point Emissions
Pollutant VOC
Emissions Value (tpy) 3.1000000000
Allowable Value Units

SEGMENT INFORMATION: Number: 1 Description: VOC loss from adhesive application

Source Classification Code: 49099999 SCC Description: Identify the Process and Solvent in Comments

Actual Annual Throughput: 3.1

Max. Hourly Operation Rate: 0

State Sensitive: N

Permitted Equipment: N

Insignificant Activity: N

Pollution Prevention: N

Trace%: 0 Ash%: 0 Sulfur%: 0

Heat Content (MMBTU): 0

Throughput Limit:

Throughput Unit:

Pollution Prevention Comments:

Segment Comments: Adhesive application on binding lines

Segment Emissions

Pollutant	Method	Factor	A/S/T	Primary Control	Secondary Control	Overall Efficiency %	Emissions Value (tpy)	Allowable Value	Units
VOC	Supplied factor (auto calc)	2000.0000000000					3.100000000		

ATTACHMENT B

NSR Permit

Dated:

February 15, 2005

As Amended:

August 11, 2005

April 28, 2006

February 23, 2007

April 30, 2007

June 21, 2007

November 10, 2010

STATIONARY SOURCE PERMIT TO MODIFY AND OPERATE

This permit replaces your permit dated February 15, 2005, as amended August 11, 2005, April 8, 2006, February 23, 2007, April 30, 2007, and June 21, 2007, and your permit dated March 23, 2010.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

R. R. Donnelley & Sons Company Harrisonburg Manufacturing North
2347 Kratzer Road
Harrisonburg, Virginia 22802
Registration No.: 81000
Plant ID No.: 51-165-0114

is authorized to modify and operate a heatset lithographic printing facility
and to construct and operate three ink-jet digital printing presses with coating units
one pneumatic trim scrap system
and to operate a sheetfed offset lithographic printing press,
adhesive operations,
one pneumatic trim scrap system,
and a waste paper dust collection system
located at 2347 Kratzer Road
Rockingham County, Virginia

in accordance with the Conditions of this permit.

Approved on:	<u>February 15, 2005</u>
Amendment date:	<u>August 11, 2005</u>
Amendment date:	<u>April 28, 2006</u>
Amendment date:	<u>February 23, 2007</u>
Amendment date:	<u>April 30, 2007</u>
Amendment date:	<u>June 21, 2007</u>
Amendment date:	<u>November 10, 2010</u>

B. Keith Fowler
Deputy Regional Director, Valley Region

Permit consists of 15 pages.
Permit Conditions 1 to 41.
Source Testing Report Format.

INTRODUCTION

This permit approval is based on the permit applications dated November 2, 1978; April 3, 1998, January 20, 2003, April 17, 2003, October 8, 2003, May 13, 2004, November 24, 2004, February 28, 2006, April 20, 2007, February 1, 2010, and October 15, 2010, a permit application received July 28, 2006, including amendment sheets dated December 21, 1978, February 7, 1979, April 14, 1998, June 16, 1998, February 4, 1999, February 12, 1999, February 24, 1999, March 25, 1999, April 22, 1999, August 2, 1999, March 31, 2000, April 18, 2000, April 25, 2000, May 31, 2000, June 8, 2000, July 19, 2001, August 8, 2001, May 5, 2003, December 27, 2004, January 4, 2005, January 31, 2005, February 2, 2005, February 4, 2005, February 7, 2005, February 10, 2005, February 11, 2005, July 11, 2005, July 28, 2006, February 1, 2007, February 2, 2007, and March 12, 2010, and supplemental information dated April 3, 2006, April 13, 2006, September 1, 2006, January 10, 2007, and January 25, 2007. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-20 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses () after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will be either in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

PROCESS REQUIREMENTS

1. **Equipment List** - Equipment at this facility consists of the following:

Equipment to be installed		
Ref. No.	Equipment Description	Rated Capacity
105	Ink-Jet Digital Printing Press with coating unit Model 6034988	526,620 pages per hour 1.48 gallons of ink per hour 0.52 gallons of coating per hour

106	Ink-Jet Digital Printing Press with coating unit Model 6034988	526,620 pages per hour 1.48 gallons of ink per hour 0.52 gallons of coating per hour
107	Ink-Jet Digital Printing Press with coating unit Model 6034988	526,620 pages per hour 1.48 gallons of ink per hour 0.52 gallons of coating per hour
PTS-2	Pneumatic trim scrap system, comprised of one air cyclone and related ductwork	capacity of 15 tons per hour

Equipment to be modified		
Ref. No.	Equipment Description	Rated Capacity
765	Toshiba OA two-web offset printing press	38,000 impressions per hour (maximum impression size 34" x 19.375")
766	Toshiba OA two-web offset printing press	38,000 impressions per hour (maximum impression size 34" x 19.375")
770	Toshiba OA two-web offset printing press	36,000 impressions per hour (maximum impression size 34" x 38.75")
771	Toshiba OA one-web offset printing press	36,000 impressions per hour (maximum impression size 34" x 38.75")
772	Toshiba OA two-web offset printing press	36,000 impressions per hour (maximum impression size 34" x 38.75")
773	Toshiba OA two-web offset printing press	36,000 impressions per hour (maximum impression size 34" x 38.75")
782	Harris M110-B two-web offset printing press (formerly designated Press 764)	38,000 impressions per hour (maximum impression size 26.5" x 17.75")
784	Harris M110-B two-web offset printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.75")
785	Harris M110-B two-web offset printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.75")
787	Harris M110-B two-web offset printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.75")
790	Timson T48A one-web offset printing press	31,400 impressions per hour
791	Timson T48A one-web offset printing press	37,000 impressions per hour

Equipment permitted prior to the date of this permit		
Ref. No.	Equipment Description	Rated Capacity
751	1989 Heidelberg 72FL sheetfed offset lithographic printing press consisting of five printing units	11,000 impressions per hour
767	Hantscho 16c two-web offset printing press	38,000 impressions per hour (maximum impression size 34" x 19.375")
768	Hantscho 16c two-web offset printing press	38,000 impressions per hour (maximum impression size 34" x 19.375")

769	Hantscho 16c two-web offset printing press	38,000 impressions per hour (maximum impression size 34" x 19.375")
783	Harris M110-B two-web offset printing press	36,000 impressions per hour (maximum impression size 26.5" x 17.75")
ADH	Binding line adhesive operations	-
PTS-1	Pneumatic trim scrap system, comprised of four Koger Type P air cyclones and related ductwork	combined capacity of 15 tons per hour
WPD	Waste paper dust collection system	-

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.

(9 VAC 5-80-1180 D 3)

2. **Emission Controls: Fountain Solution** - Volatile Organic Compounds (VOC) emissions from all web offset presses (Presses 765-773, 782-785, 787, 790, and 791) shall be controlled by using a fountain solution containing alcohol substitutes and limiting the VOC content of the fountain solution to no more than a daily average of 5 percent by weight.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)
3. **Emission Controls: Ink** - VOC emissions from Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 shall be controlled by use of inks having VOC content of not more than 32 percent, by weight, as applied, calculated as a monthly average.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)
4. **Emission Controls: Ink** - VOC emissions from Presses 767-769 and 783 shall be controlled by the use of inks having VOC content of not more than 28 percent, by weight, as applied.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)
5. **Emission Controls: Ink** - VOC from the presses with coating units (Ref. Nos. 105-107) shall be controlled by the use of inks having VOC content of not more than 0.833 lb/gal, by weight.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)
6. **Emission Controls: Coating** - VOC from the presses with coating units (Ref. Nos. 105-107) shall be controlled by the use of coatings having VOC content of not more than 0.30 lb/gal, by weight.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)
7. **Emission Controls: Regenerative Thermal Oxidizer** - Presses 770 and 772 shall be controlled by the regenerative thermal oxidizer (RTO). The RTO shall be provided with adequate access for inspection and shall be in operation when either Press 770 or 772 is operating.
(9 VAC 5-80-1180)

8. **Emission Controls** – For all printing presses and adhesive operations (ADH), VOC emissions controls from cleanup, washup, and disposal shall include the following, or equivalent, as a minimum:
- a. VOC shall not be intentionally spilled, discarded to sewers, stored in open containers, or handled in any other manner that would result in evaporation beyond that consistent with air pollution control practices for minimizing emissions.
 - b. All VOC containing receptacles shall be closed at all times except during loading and unloading.
 - c. VOC emissions from the disposal of fountain solutions, cleaning solutions, and other products containing more than 25 percent by weight shall be reduced by reclamation or incineration.
 - d. VOC emissions shall be reduced by storing cleaning solutions and applicators in covered containers or machines with remote reservoirs when not in use.
 - e. VOC emissions from the use of blanket wash shall be controlled by limiting the daily average of the VOC portion of the cleaning solution to a composite vapor pressure of 10 mm Hg or less at 68 °F. Composite vapor pressure shall be determined as stated in 9 VAC 5-40-7810 C.
- (9 VAC 5-80-1180, 9 VAC 5-50-260 and 9 VAC 5-50-20F)
9. **Emission Controls: Waste Paper Dust Collection System** – Particulate matter (PM) emissions generated by the waste paper dust collection system (WPD) shall be controlled by fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when any binding line is operating.
(9 VAC 5-80-1180 and 9 VAC 5-50-260)
10. **Control Efficiency: Regenerative Thermal Oxidizer** – The RTO shall maintain a destruction efficiency for VOC emissions of no less than 95.0%, on a mass basis.
(9 VAC 5-80-1180)
11. **Control Parameters: Regenerative Thermal Oxidizer** – The RTO shall maintain a minimum combustion chamber temperature equal to or higher than that determined during the initial performance testing and a retention time of at least 0.80 seconds. The minimum combustion zone temperature shall be calculated as a three-hour average. Details concerning the method of calculating the three-hour average combustion zone temperature shall be arranged with the DEQ.
(9 VAC 5-80-1180)
12. **Monitoring Devices** – The RTO shall be equipped with devices to continuously measure and record the combustion chamber temperature. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall

include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the RTO is operating.

(9 VAC 5-80-1180 D)

13. **Monitoring Devices** - Each fabric filter shall be equipped with devices to continuously measure the differential pressure across the filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when any binding line is operating.
(9 VAC 5-80-1180 D and 9 VAC 5-50-260)

OPERATING/EMISSION LIMITATIONS

14. **Fuels** - The approved fuels for the heatset printing presses (Presses 765-773, 782-785, 787, 790, and 791) are natural gas and propane. A change in fuels may require a permit to modify and operate.
(9 VAC 5-80-1180)
15. **Fuels** - The approved fuels for the RTO are natural gas and propane. A change in fuels may require a permit to modify and operate.
(9 VAC 5-80-1180)
16. **Throughput** - The throughput of VOC in inks, fountain solutions, and cleaning solvents in the presses and in all materials for adhesive operations shall not exceed the following limits (tons per year):

Process	Ink VOC	Fountain solution VOC	Blanket Wash / Cleaning solvent VOC
Press 751		17.1	7.9
Press 767	3.4	1.8	0.5
Presses 768-769	6.4	0.5	1.3
Press 783	5.4	0.5	0.67
Adhesive operations (ADH)		12.5	

Throughput shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-50-260 and 9 VAC 5-80-1180)

17. **Throughput** – The throughput of VOC (tons per year) in inks, fountain solutions and cleaning solvents to Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 shall not exceed that allowed by the following formula:

$$x_u(0.80) + (x_c)(0.80)\left(1 - \frac{\varepsilon}{100}\right) + y_u + y_c\left[0.30 + 0.70\left(1 - \frac{\varepsilon}{100}\right)\right] + 0.50z_m + z_{au} \leq 69.5$$

where

- x_u = VOC (tons) in inks used in uncontrolled presses (Presses 765-766, 771, 773, 782, 784-785, 787, 790 and 791)
- x_c = VOC (tons) in inks used in controlled presses (Presses 770 and 772)
- ε = RTO destruction efficiency (percent) as determined in testing of RTO according to the initial performance testing
- y_u = VOC (tons) in fountain solution used in uncontrolled presses (Presses 765-766, 771, 773, 782, 784-785, 787, 790 and 791)
- y_c = VOC (tons) in fountain solution used in controlled presses (Presses 770 and 772)
- z_m = VOC (tons) in manual blanket wash/cleaning solvent used in uncontrolled presses (Presses 765-766, 771, 773, 782, 784-785, 787 and 790) and in controlled presses (Presses 770 and 772)
- z_{au} = VOC (tons) in automatic blanket wash/cleaning solvent used in uncontrolled presses

Throughput shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-50-260 and 9 VAC 5-80-1180)

18. **Throughput** – The throughput of paper to the pneumatic trim scrap system (PTS-1) shall not exceed 38,600 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months.
- (9 VAC 5-80-1180)

19. **Throughput** – The throughput of paper to the pneumatic trim scrap system (PTS-2) shall not exceed 87,600 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months.
- (9 VAC 5-80-1180 and 9 VAC 5-50-260)

20. **Throughput** - The throughput of VOC in each press with a coating unit (Ref. Nos. 105-107) shall not exceed 6.1 tons per year. Throughput shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months.

(9 VAC 5-50-260 and 9 VAC 5-80-1180)

21. **Emission Limits** – VOC emissions from the operation and cleaning of the following equipment shall be limited as specified below:

Process	Emissions (tons/year)
Press 751	21.0
Press 767	4.8
Presses 768-769	6.3
Press 783	5.2
Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791	69.5
Adhesive operations (ADH)	12.5

Annual emissions shall be calculated monthly as the sum of the previous consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with these emission limits may be determined as stated in Conditions 2, 3, 4, 7, 16, and 17.

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

22. **Emission Limits** – Emissions from the operation of each press with a coating unit (Ref. Nos. 105-107) shall not exceed the limits specified below:

VOC

1.4 lbs/hr

6.1 tons/year

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Hourly emissions shall be calculated monthly as a monthly average. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with these emission limits may be determined as stated in Conditions 5, 6, and 20.

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

23. **Emission Limits** – PM emissions from the following equipment shall be limited as specified below:

Pneumatic trim scrap system (PTS-1)	15 lbs/hr	19.3 tons/year
Waste paper dust collection (WPD)	0.01 gr/dscf	2.6 tons/year
Pneumatic trim scrap system (PTS-2)	0.05 gr/dscf	9.0 tons/year

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Hourly emissions shall be calculated monthly as a monthly average. Annual emissions shall be calculated monthly as the sum of the previous consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently-completed calendar month to the individual monthly totals for the preceding 11 months. Compliance with these emission limits may be determined as stated in Conditions 9 and 18.

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

24. **Visible Emission Limits** - Visible emissions from the following operations shall not exceed the percentage opacity indicated below, as determined by EPA Method 9 (40 CFR 60, Appendix A). The limits shall apply at all times except for noted exclusions.

Process	% opacity	Exclusions
Press 751 and Adhesive operations (ADH)	5	None
Heatset Presses 765-773, 782-785, 787, 790, and 791	10	None
Heatset Presses 770 and 772 (before installation of the RTO)	10	None
Heatset Presses 770 and 772 (after installation of the RTO)	5	None
Pneumatic trim scrap system (PTS-1)	20	Does not apply during startup, shutdown, and malfunction.
Waste paper dust collection (WPD)	5	None
Pneumatic trim scrap system (PTS-2)	10	None

(9 VAC 5-80-1180 and 9 VAC 5-50-260)

25. **Visible Emission Limit** - Visible emissions from each press with a coating unit (Ref. Nos. 105-107) shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.

(9 VAC 5-50-80 and 9 VAC 5-80-1180)

CONTINUING COMPLIANCE DETERMINATION

26. **Visible Emissions Evaluation** - Upon request by the DEQ, the permittee shall conduct additional performance tests for VOC from the RTO serving Presses 770 and 772 to demonstrate compliance with the destruction efficiency contained in Condition 10. The details of the tests shall be arranged with the DEQ.
(9 VAC 5-80-1180 and 9 VAC 5-50-30 G)
27. **Visible Emissions Evaluation** - Upon request by the DEQ, the permittee shall conduct additional visible emission evaluations from the heatset presses (Presses 765-773, 782-785, 787, 790, and 791) to demonstrate compliance with the visible emission limits contained in this permit. The details of the tests shall be arranged with the DEQ.
(9 VAC 5-80-1180 and 9 VAC 5-50-30 G)
28. **Visible Emissions Evaluations** - Upon request by the DEQ, the permittee shall conduct visible emission evaluations from the presses with coating units (Ref. Nos. 105-107) to demonstrate compliance with the visible emission limit contained in this permit. The details of the tests shall be arranged with the DEQ
(9 VAC 5-50-30 G)

RECORDS

29. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the DEQ. These records shall include, but are not limited to:
- a. Monthly and annual material balance of VOC used at each of Presses 751, 767, and 783 (individually), at Presses 768 and 769 (combined), and at adhesive operations (ADH), to include:
 - i. Throughput of VOC in each of the following: inks, fountain solutions, manual blanket wash, automatic blanket wash, other cleaning solvents, and adhesives; and
 - ii. Throughput of VOC disposed of offsite.
- Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- b. Monthly and annual throughput of VOC in inks, in fountain solutions, in manual blanket wash, in automatic blanket wash and in other cleaning solvents shall each be recorded for Presses 770 and 772 (combined) and at Presses 765-766, 771, 773, 782, 784-785, 787, 790, and 791 (as a sum for the group). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

- c. Monthly and annual VOC throughput (in tons) for each press with a coating unit (Ref. Nos. 105-107). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- d. Monthly calculations according to the formula in Condition 17.
- e. Monthly and annual VOC emissions (in tons) for Presses 751, 767, and 783 (individually), Presses 768 and 769 (combined), Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 (as a group total), and adhesive operations (ADH). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- f. Monthly and annual VOC emissions (in tons) from each press with a coating unit (Ref. Nos. 105-107). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- g. Material Safety Data Sheets (MSDS), Reference Method 24 test results, or other vendor information showing VOC content, toxic compound content, water content, and solids content for each ink, thinner, fountain solution, manual blanket wash, automatic blanket wash, other cleaning solvent, and adhesive used.
- h. VOC content of inks used in Presses 765-766, 770-773, 782, 784-785, 787, 790, and 791 in percent by weight as applied, calculated each month as a monthly average for the group.
- i. VOC composite partial vapor pressure of each blanket wash and cleaning solvent.
- j. Annual consumption of natural gas and propane for the RTO calculated monthly as the sum of each consecutive 12-month period.
- k. Operation and combustion temperature monitoring records for the RTO.
- l. Results of all stack tests and visible emission evaluations.
- m. Monthly and annual throughputs of paper to each pneumatic trim scrap system (PTS-1 and PTS-2). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- n. Hourly, monthly, and annual PM emissions from each pneumatic trim scrap system (PTS-1 and PTS-2). Hourly emissions shall be calculated each month as a monthly average (monthly paper throughput divided by monthly hours of pneumatic trim scrap system (PTS-1 and PTS-2) operation and multiplied by a DEQ-approved emission factor). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- o. Hours of operation of each pneumatic trim scrap system (PTS-1 and PTS-2), calculated monthly.

- p. Scheduled and unscheduled maintenance, and operator training.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.

(9 VAC 5-80-1180 and 9 VAC 5-50-50)

30. **Emissions Testing** - The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Sampling ports shall be provided when requested at the appropriate locations and safe sampling platforms and access shall be provided.

(9 VAC 5-80-1180 and 9 VAC 5-50-30 F)

NOTIFICATIONS

31. **Initial Notifications** - The permittee shall furnish written notification to the DEQ, of the following:

- a. The actual date on which construction of presses with coating units (Ref. Nos. 105-107) commenced, within 30 days after such date.
- b. The actual start-up date of presses with coating units (Ref. Nos. 105-107), within 15 days after such date.
- c. The actual date on which installation of the pneumatic trim scrap (PTS-2) system commenced, within 30 days after such date.
- d. The actual start-up date of the pneumatic trim scrap (PTS-2) system, within 15 days after such date.

(9 VAC 5-80-1180 and 9 VAC 5-50-50)

GENERAL CONDITIONS

32. **Permit Invalidation** - The portions of this permit to construct and operate three presses with coating units (Ref. Nos. 105-107) shall become invalid, unless an extension is granted by the DEQ, if:

- a. A program of continuous construction is not commenced before the latest of the following:
 - i. 18 months from March 23, 2010;

- ii. Nine months from the date that the last permit or other authorization was issued from any other governmental agency;
- iii. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or
- b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.

(9 VAC 5-80-1210)

33. Permit Invalidation - The portions of this permit to install and operate the pneumatic trim scrap (PTS-2) system shall become invalid, unless an extension is granted by the DEQ, if:

- a. A program of continuous construction is not commenced before the latest of the following:
 - i. The date of this permit;
 - ii. Nine months from the date that the last permit or other authorization was issued from any other governmental agency;
 - iii. Nine months from the date of the last resolution of any litigation concerning any such permits or authorization; or
- b. A program of construction is discontinued for a period of 18 months or more, or is not completed within a reasonable time, except for a DEQ approved period between phases of a phased construction project.

(9 VAC 5-80-1210)

34. Permit Suspension/Revocation – This permit may be suspended or revoked if the permittee:

- a. Knowingly makes material misstatements in the permit application or any amendments to it;
- b. Fails to comply with the conditions of this permit;
- c. Fails to comply with any emission standards applicable to a permitted emissions unit;
- d. Causes emissions from the stationary source which result in violations of, or interfere with the attainment and maintenance of, any ambient air quality standard; or

- e. Fails to operate in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time an application for this permit is submitted.

(9 VAC 5-80-1210 F)

35. Right of Entry - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

- a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;
- b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;
- c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and
- d. To sample or test at reasonable times.

For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.

(9 VAC 5-80-1180 and 9 VAC 5-170-130)

36. Maintenance/Operating Procedures – At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

- a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.
- b. Maintain an inventory of spare parts.
- c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.
- d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

(9 VAC 5-50-20 E and 9 VAC 5-80-1180 D)

37. **Record of Malfunctions** - The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record:

(9 VAC 5-20-180 J and 9 VAC 5-80-1180 D)

38. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the DEQ, of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but not later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within 14 days of the discovery. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the DEQ, in writing.

(9 VAC 5-80-1180 and 9 VAC 5-20-180 C)

39. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.

(9 VAC 5-80-1180 and 9 VAC 5-20-180 I)

40. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the DEQ, of the change in ownership within 30 days of the transfer.

(9 VAC 5-80-1240)

41. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.

(9 VAC 5-80-1180)

SOURCE TESTING REPORT FORMAT

Report Cover

1. Plant name and location
2. Units tested at source (indicate Ref. No. used by source in permit or registration)
3. Test dates
4. Tester; name, address and report date

Certification

1. Signed by team leader/certified observer (include certification date)
2. Signed by responsible company official
3. *Signed by reviewer

Copy of approved test protocol

Summary

1. Reason for testing
2. Test dates
3. Identification of unit tested & the maximum rated capacity
4. *For each emission unit, a table showing:
 - a. Operating rate
 - b. Test Methods
 - c. Pollutants tested
 - d. Test results for each run and the run average
 - e. Pollutant standard or limit
5. Summarized process and control equipment data for each run and the average, as required by the test protocol
6. A statement that test was conducted in accordance with the test protocol or identification & discussion of deviations, including the likely impact on results
7. Any other important information

Source Operation

1. Description of process and control devices
2. Process and control equipment flow diagram
3. Sampling port location and dimensioned cross section Attached protocol includes: sketch of stack (elevation view) showing sampling port locations, upstream and downstream flow disturbances and their distances from ports; and a sketch of stack (plan view) showing sampling ports, ducts entering the stack and stack diameter or dimensions

Test Results

1. Detailed test results for each run
2. *Sample calculations
3. *Description of collected samples, to include audits when applicable

Appendix

1. *Raw production data
2. *Raw field data
3. *Laboratory reports
4. *Chain of custody records for lab samples
5. *Calibration procedures and results
6. Project participants and titles
7. Observers' names (industry and agency)
8. Related correspondence
9. Standard procedures

* Not applicable to visible emission evaluations.